What is claimed is:

1. An integrated photonic apparatus comprising:

a glass substrate having a major surface;

an input signal waveguide formed along the major surface of the substrate;

an output signal waveguide, optically coupled to the input waveguide, and formed along the major surface of the substrate;

a drop signal waveguide, optically coupled to the input waveguide, and formed along the major surface of the substrate; and

a first pump-light interface optically coupled to at least one of the input, the drop, and the output waveguides, the glass substrate having a sufficiently high doping level such that only when sufficient pump light is launched into the first pump light interface is significant light of a drop-signal wavelength is output from the drop-signal waveguide.

2. The apparatus of claim 1, further comprising

a first reflector formed on at least one of the input and the output waveguides, wherein the first reflector reflects a first wavelength and is transparent to a plurality of other wavelengths, such that the first wavelength is passed to the drop waveguide and the plurality of other wavelengths is passed through to an exit interface of the output waveguide.

3. The apparatus of claim 1, further comprising:

a first electro-optic reflector formed on at least one of the input and the output waveguides, wherein the first electro-optic reflector reflects a first wavelength and is transparent to a plurality of other wavelengths such that the first wavelength is passed to the drop waveguide and the plurality of other wavelengths is passed through to an exit interface of the output waveguide when the first electro-optic reflector is turned on.

4. The apparatus of claim 3, wherein the first electro-optic reflector comprises a physical grating having an electro-optic material coating that selectably matches or mismatches an index of refraction of the grating, wherein the first wavelength is reflected when the electro-optic material coating mismatches the index of refraction of the grating.

5. The apparatus of claim 4, further comprising a second electro-optic reflector that comprises a physical grating having an electro-optic material coating that selectably matches or mismatches an index of refraction of the grating, wherein a wavelength selectably reflected by the first electro-optic reflector is different than a wavelength selectably reflected by the second electro-optic reflector.

6. The apparatus of claim 3, wherein the first electro-optic reflector comprises a plurality of dielectric layers of an electro-optic material coating each of which selectably change an index of refraction, thus changing a wavelength that is reflected.

7. The apparatus of claim 1, further comprising:

an add signal waveguide, optically coupled to the output waveguide, and formed along the major surface of the substrate.

8. The apparatus of claim 1, further comprising:

a first electro-optic reflector formed on the output waveguide, wherein the first electro-optic reflector selectably reflects a first wavelength and is transparent to a plurality of other wavelengths such that the first wavelength is passed to the drop waveguide and the plurality of other wavelengths is passed through to an exit interface of the output waveguide when the first electro-optic reflector is turned on, and wherein the first pump-light interface is optically coupled to the drop waveguide, the glass substrate having a doping level such that when sufficient pump light is launched into the first pump light interface, light of the drop-signal wavelength is output from the drop-signal waveguide.

9. The apparatus of claim 8, further comprising:

an add signal waveguide, optically coupled to the output waveguide, and formed along the major surface of the substrate, wherein the add waveguide has a higher index of refraction than an index of refraction of adjacent portions of the substrate; and

a second pump-light interface optically coupled to the add waveguide, the glass substrate having a doping level such that only when sufficient pump light is launched into the second pump light interface, light of a add-signal wavelength is output from the output waveguide.

10. The apparatus of claim 8, further comprising:

a third pump-light interface optically coupled to the output waveguide, the glass substrate having a doping level such that only when sufficient pump light is launched into the third pump light interface, light of a add-signal wavelength is output from the output waveguide.

11. A method comprising:

providing a glass substrate having a major surface, an input signal waveguide formed along the major surface of the substrate, an output signal waveguide, optically coupled to the input waveguide, and formed along the major surface of the substrate, a drop signal waveguide, optically coupled to the input waveguide, and formed along the major surface of the substrate; and

launching pump-light into at least one of the input, the drop, and the output waveguides, wherein the glass substrate has a sufficiently high doping level such that only when sufficient pump light is launched into the first pump light interface is significant light of a drop-signal wavelength is output from the drop-signal waveguide.

12. The method of claim 11, further comprising

reflecting a first wavelength and not reflecting a plurality of other

wavelengths, such that the first wavelength is passed to the drop waveguide and the plurality of other wavelengths is passed through to an exit interface of the output waveguide.

13. The method of claim 11, further comprising:

selectably reflecting a first wavelength and not reflecting a plurality of other wavelengths, such that the first wavelength is passed to the drop waveguide and the plurality of other wavelengths is passed through to an exit interface of the output waveguide.

14. The method of claim 13, wherein the selectably reflecting comprises providing a physical grating having an electro-optic material coating that selectably matches or mismatches an index of refraction of the grating, wherein the first wavelength is reflected when the electro-optic material coating mismatches the index of refraction of the grating.

15. The method of claim 14, wherein the selectably reflecting comprises selectably reflecting either one or another of at least two different wavelengths.

16. The method of claim 13, wherein the selectably reflecting comprises changing an index of refraction of a plurality of dielectric layers of an electro-optic material coating, thus changing a wavelength that is reflected.

17. The method of claim 11, further comprising:

providing an add signal waveguide, optically coupled to the output waveguide, and formed along the major surface of the substrate; and

launching a second wavelength of light into the add-signal waveguide.

18. The method of claim 11, further comprising:

selectably reflecting a first wavelength and passing a plurality of other

wavelengths such that the first wavelength is passed to the drop waveguide and the plurality of other wavelengths is passed through to an exit interface of the output waveguide, and

launching pump-light into the drop waveguide, the glass substrate having a doping level such that when sufficient pump light is launched into the drop waveguide, light of the first wavelength is output from the drop-signal waveguide.

19. The method of claim 18, further comprising:

providing an add signal waveguide, optically coupled to the output waveguide, and formed along the major surface of the substrate; and

launching pump-light into the add waveguide, the glass substrate having a doping level such that only when sufficient pump light is launched into the add signal waveguide, light of a add-signal wavelength is output from the output waveguide.

20. An integrated photonic apparatus comprising:

a glass substrate having a major surface;

an input signal waveguide formed along the major surface of the substrate;

a drop signal waveguide, optically coupled to the input waveguide, and formed along the major surface of the substrate; and

means for controlling an amount of light of a drop-signal wavelength that is output from the drop-signal waveguide.